**2.1: Distributions for QUANTITATIVE variables**

Categorical Distributions (pictures): Quantitative Distributions (pictures):

1) Bar chart 1) Dotplots

2) Pie Chart 2) Stemplots

3) Two way tables 3) Histograms

4) Boxplots

**DOTPLOTS:**

* X-axis =
* Put at dot …
* LABEL!
* Example: Make a dotplot for the number of years the students in SDA have owned a cell phone.
* Example: Make a dotplot for the number of siblings the SDA students have.

**STEMPLOTS:**

* Each …
* Leaf =
* Draw …
* Stems …
* Stems …
* ALL …
* Leaves …
* Spacing …
* No …

***Example:*** Test scores:

75 80 82 70 71 71

68 60 95 91 77 76

70 67 62 75 76 80

***Example:*** Make a stemplot of the following list of ages of parents of seniors at CB South:

38 44 48 40 45

49 52 60 39 44

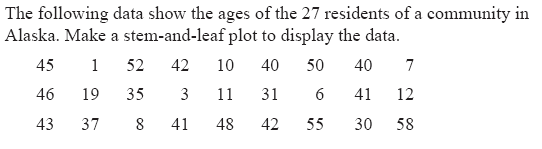
43 49 51 55 61

54 52 54 46 47

48 40 47 49 53

55

***Example:*** Make a stemplot of the following data:



**BACK TO BACK STEMPLOTS:** Compares 2 sets of data

***Example****:*

Babe Ruth’s homerun totals each season for the Yankees:

54, 59, 35, 41, 46, 25, 47, 60, 54, 46, 49, 41, 34, 22

Roger Maris’ homerun totals for the Yankees:

8, 13, 23, 33, 28, 16, 14, 39, 26, 61

***Example:***

Men:

23 24 55 40 48 49

45 29 33 37 39 38

30 35 36 39 21 36

Women:

15 11 12 14 19 18

23 30 31 21 32 22

26 27 28 23 21 20

**SPLITTING STEMS:**

**When?**

**How?*Example:*** Create a stemplot, with split stems

Test scores again:

70 77 78 72 73

78 67 68 90 88

77 81 82 86 78

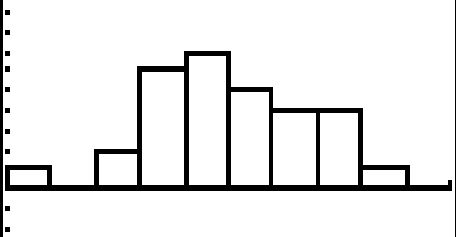
78 78 79 84 88

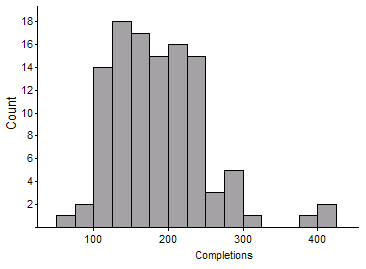
86 87 84 83 75

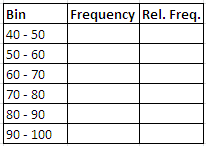
77 75 71 70 69

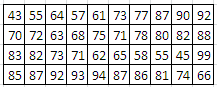
**HISTOGRAMS:**

* Observations …
* Count …
* Similar to …
* Bin width …
* LABEL!
* Can do …

Example: Example: Completions of NCAA QBs in 2006



***Example:*** GRADES:



***Example:*** SAT scores

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 580 | 420 | 600 | 560 | 640 | 590 | 660 | 600 | 680 | 650 | 720 | 680 | 720 | 740 | 780 |
| 590 | 510 | 610 | 570 | 650 | 590 | 670 | 610 | 720 | 670 | 720 | 700 | 760 | 760 | 760 |
| 410 | 460 | 450 | 510 | 500 | 560 | 570 | 540 | 490 | 420 | 530 | 470 | 570 | 580 | 520 |

**Histograms on the calculator (p. 52 – 53 in the book)**

Example 1: Using the data for HOURS SLEEPING, input the data into L1 on your calculator, and create a histogram

Example 2: Using the data for HEIGHT (in inches), create a histogram.

Example 3: Change your HEIGHT histogram to a relative frequency (%) histogram.

**Transferring Data from one calculator to another**

2ND 🡪 LINK 🡪 SEND/RECEIVE

**Examples:**

Using the list PRES, create a relative frequency histogram. This is a list of all the ages of death of the US Presidents.

Using the list INCOM, create a frequency histogram. This is a list of incomes (in thousands of dollars) for a sample of adults. 3 = $3,000 20 = $20,000

Using the list GPA, create a relative frequency histogram. This is a sample of GPAs from high school students.